Index to Volume 65

INDEX TO AUTHORS OF MAJOR ARTICLES

BALL, D. Microcomputers and biology teaching; an overview and some ideas for future	
development	255
BREMNER, D. North Sea oil	46
BURKITT, D. P. Your health in your hands	264
DUXBURY, J. Girls and physics—the role of a Head of Physics	648
FREEDMAN, R. The fluid mosaic model of biological membranes—its strengths and	
limitations	679
GILL, R. A. Microcomputer simulation of enzyme kinetic behaviour	670
GUISE, R. A business game: the marketing of a programmable electronic organ	56
HAMILTON, SIR JAMES Presidential address: Science, industry and education	639
HODSON, D. Why the science curriculum changes—evolution or social control?	5
JAMES, H. M. A-level choice patterns of O-level chemistry students	475
LAMBERT, A. VELA: a microprocessor-based laboratory instrument	38
LAZONBY, J. N. A-level choice patterns of O-level chemistry students	475
MACDONALD, J. J. The mole: how should it be taught?	486
MARCHANT, G. W. The noble gases in A-level chemistry	277
OPENSHAW, P. River pollution Part I	243
OPENSHAW, P. River pollution Part II. Biological methods for assessing water quality	460
PHILPOT, A. An introduction to problem-solving activities—some suggestions for	
design and make	19
PRESCOTT, A. North Sea oil	48
PROPHET, R. B. Why the science curriculum changes—evolution or social control?	5
CLLS, 1. F. The future of science education: an alternative perspective	429
ROTHERAM, K. Guided exploration using flowcharts	655
SELLWOOD, P. An introduction to problem-solving activities—some suggestions for	
design and make	19
SIDDONS, J. C. More experiments and calculations	448
SOLOMON, J. Messy, contradictory, and obstinately persistent: a study of children's	
out-of-school ideas about energy	225
STEAD, K. The manipulation of units	233
TALLON, W. Microcomputers and biology teaching: an overview and some ideas for	
future development	255
TIMBRELL, J. A. Toxicology: old art, new science	286
TOMLEY, D. Microcomputers and biology teaching: an overview and some ideas for	
future development	255
WADDINGTON, D. J. A-level choice patterns of O-level chemistry students	475
WALFORD, G. Science education and sexism in the Soviet Union	213
WARD, A. Approaching an elementary concept of energy Part I	33
WARD, A. Approaching an elementary concept of energy Part II	230
WARD, A. Four projects in electricity suitable for primary schools	270

Index to Volume 65

INDEX TO AUTHORS OF MAJOR ARTICLES

BALL, D. Microcomputers and biology teaching; an overview and some ideas for future	
development	255
BREMNER, D. North Sea oil	46
BURKITT, D. P. Your health in your hands	264
DUXBURY, J. Girls and physics—the role of a Head of Physics	648
FREEDMAN, R. The fluid mosaic model of biological membranes—its strengths and	
limitations	679
GILL, R. A. Microcomputer simulation of enzyme kinetic behaviour	670
GUISE, R. A business game: the marketing of a programmable electronic organ	56
HAMILTON, SIR JAMES Presidential address: Science, industry and education	639
HODSON, D. Why the science curriculum changes—evolution or social control?	5
JAMES, H. M. A-level choice patterns of O-level chemistry students	475
LAMBERT, A. VELA: a microprocessor-based laboratory instrument	38
LAZONBY, J. N. A-level choice patterns of O-level chemistry students	475
MACDONALD, J. J. The mole: how should it be taught?	486
MARCHANT, G. W. The noble gases in A-level chemistry	277
OPENSHAW, P. River pollution Part I	243
OPENSHAW, P. River pollution Part II. Biological methods for assessing water quality	460
PHILPOT, A. An introduction to problem-solving activities—some suggestions for	
design and make	19
PRESCOTT, A. North Sea oil	48
PROPHET, R. B. Why the science curriculum changes—evolution or social control?	5
CLLS, 1. F. The future of science education: an alternative perspective	429
ROTHERAM, K. Guided exploration using flowcharts	655
SELLWOOD, P. An introduction to problem-solving activities—some suggestions for	
design and make	19
SIDDONS, J. C. More experiments and calculations	448
SOLOMON, J. Messy, contradictory, and obstinately persistent: a study of children's	
out-of-school ideas about energy	225
STEAD, K. The manipulation of units	233
TALLON, W. Microcomputers and biology teaching: an overview and some ideas for	
future development	255
TIMBRELL, J. A. Toxicology: old art, new science	286
TOMLEY, D. Microcomputers and biology teaching: an overview and some ideas for	
future development	255
WADDINGTON, D. J. A-level choice patterns of O-level chemistry students	475
WALFORD, G. Science education and sexism in the Soviet Union	213
WARD, A. Approaching an elementary concept of energy Part I	33
WARD, A. Approaching an elementary concept of energy Part II	230
WARD, A. Four projects in electricity suitable for primary schools	270

6

356

144

752

SUBJECT INDEX

References refer to articles, notes, etc, as follows:

programmable electronic organ MA

Calomel electrodes, the care and

В	Biology notes		NC	Notes and correspondence	
C	Chemistry notes		P	Physics notes	
MA.	Major articles		SE	Science education notes	
MS	Middle school notes				
A-leve	l choice patterns of O-level		Career	in the pharmaceutical industry	
cher	mistry students MA	475	NC		584
A-leve	l, comparability of physics grades		Cat ger	netics B	303
at S	E	569	Cell di	vision, demonstrating B	501
ATP,	cytochromes, chemiosmosis, and				, 590
the	synthesis of B	67	Chemi	cal warfare amongst plants B	499
Adapt	ation, measuring of, and selection		Chemi	osmosis and ATP synthesis B	6
pres	sures B	508	Chemi	stry and the philosophy of	
Air, fr	actional distillation of liquid NC	163	scier	nce Part II SE	130
Alkali	metals, the reaction with water		Chemi	stry students, A-level choice	
NC			patte	erns of O-level MA	47
Antipo	odal high tide NC	599	Chemi	stry syntax SE	75
Astrol	ogy, is there any truth in NC	164	Chemi	stry teaching with a world studies	
Autoc	atalysis, demonstration using a		pers	pective SE	38
mic	rocomputer C	709	Chi-sq	uared tests on a microcomputer B	29
			Circuit	t, a versatile circuit P	54
Bened	ict, Fehling vs C	528	Colour	addition—a computer program	
Bimet	allic strips, their use as thermostats -		MS		55
P		545	Colour	, change of fringe-width with P	33
Biolog	y, A- and S-level reading list, Part		Colour	circles on television NC	77
XV	I B		Colour	mixing MS	74
Biolog	y, integrated, a game B	294	Colour	mixing, additive MS	11
Biolog	y teaching NC	771	Colour	mixing by computer P	72
Biolog	y teaching—is there another way?		Colour	less solutions NC	16
SE		373	Colour	rs, additive mixing of—a computer	
Biolog	ry teaching, microcomputers and		simu	alation P	33
MA		255	Comp	uter, chemical formulae on a C	8
Blood	Separation B	506	Comp	uter iteration at A-level P	73
Bond	enthalpy, the value of the Si-Si NC	774	Comp	uter programs in chemistry C	31
Brews	ter's angle in the elementary		Comp	uter simulation and experiments	
labo	oratory P	729	NC		39
Brown	nian motion, simulation of P	342	Comp	uter simulation, the additive	
Bubbl	e motor, a 'magic' MS	347	mix	ing of colours	33
Busin	ess game: the marketing of a		Conde	nser, a simple C	72
					20

maintenance of C	324	Coulomb's Law, verification of P	548
Camera, ánother pinhole P	108	Current balance P	144
Camera, for measuring the sun's		Curriculum changes, why the science	
diameter MS	746	MA	5
Candle in the bell jar NC	163	Curriculum changes, why the science	
Candle, the suffocating NC	162	NC	591
Capacitor charge decay, measurement of		Cytochromes, and the synthesis of ATP	
P	333	В	67
Carbon uses in research and			
development C	326	Density, teaching volume and MS	553
Carbonates, thermal stability of metal		Digital control as Greenhead Grammar	
MS	748	School SE	367

56 Cooling by evaporation MS

Core science, the development of SE

Core curriculum SE

Discussion in science lessons SE	129	Fringe-width, change of P	337
Distance, using a laser to measure P	735	Fuel cell, hydrogen-oxygen C	330
Distillation and sublimation NC	775	2 2 20	
Distillation of liquid air, fractional NC	163	Gas evolved on the formation of aqueous	
Doppler effect and carrier waves P	339		594
Dynamic equilibria—a model C	540	Gas chromatography, mass	
			519
Earthworms,—a source of material for			303
meiosis B	699	Genetics, human SE	368
Eclipses, observing solar NC	391		648
Ecology, computing and field B	504	Glass electrodes, the care and	
Electricity for 10-12 year old pupils MS	120		324
Electricity projects for primary schools		Gravitational waves, an approach to P	340
MA	270		
Electrochemical series C	533	'H', whatever happened to NC	775
Electrodes, the care and maintenance of		Haber process NC	595
C	324	Halides, an alternative test for C	318
Electrolysis, mechanisms of C	313	Health in your hands, your MA	264
Electrolysis, migration of copper(II) ions		Heat and work NC	773
in NC	596	Heat, teaching NC 388,	389
Electrolysis of water, a simulation using		Hot-water bottle and a solar 'serpent' MS	354
the ZX81 computer C	93	Human genetics SE	368
Electronegativity, the concept of C	309	Hydrogen and iron (III) oxide NC 395,	
Electronic switch, a versatile P	112	Trydrogen and non (m) oxide 140 375,	
Electronics in a junior school MS	349	In coming A Cuide for In coming	
Electronics with 60 W light bulbs P	543	In-service, A Guide for In-service	590
Energy, a study on children's out-of- school ideas about MA	225	Training NC Indigo as a spectral colour NC	589 387
Energy, an elementary concept of Part I		Industrial applications of science in	
MA	33	lessons SE	140
Energy, an elementary concept of Part II	00	Industry, secondment to NC	155
MA	230	Infants school, science in an SE	378
Energy from bubbles MS 124	, 126	Inorganic chemistry and	
Energy, sign conventions for NC	159	electronegativity in C	309
Enthalpy, changes and the solvation of		Instrument, VELA: a microprocessor-	
ionic solids in water C	329	based laboratory MA	38
Enthalpy, the value of the Si-Si bond		Insulation, models for house MS	348
NC	774	Inverse square law for light P	105
Enzyme kinetic behaviour,		lonic formulae, a game for teaching C	103
microcomputer simulation of MA	670	Iron, a simulation of the extraction of,	
Equations, chemical C	101	using a ZX81 computer C	529
Ethanal, a safe alternative to C	727	Iron(III) oxide and hydrogen NC 395,	773
Evaporation, cooling by MS	356		
Experiments and calculations MA	448	Keir, James NC	387
Fehling vs Benedict C	528	Laser, measurement of distance using a	
Fifty years, after NC	150	P	735
Fine-beam tube, measuring the diameter		Locust egg-laying tubes, a simple	
in, when finding e/m P	111	watering technique for B	298
Float or sink, simple things to MS	556	Logarithms—quantities and units NC	771
Flowcharts, guided exploration using			
MA	655	Magic, science and a sense of wonder	
Fluid mosaic model of biological		over an old trick MS	122
membranes MA	679	Magnetic flux density inside a solenoid P	110
Force, sign conventions for NC	159	Magnetic mystery NC 161,	393
Formulae building C	323	Magnetic properties of transition metal	
Formulae, chemical C	83	compounds C	714
Formulae, chemical NC	593	Mass spectroscopy linked to gas	
Friction, science MS	362	chromatography C	519

4

0 5 8

9

9 7

5

203

Pinhole camera, another P

Meiosis, earthworms as a source of		Pin-hole camera for observing solar	201
material for B	699	eclipses NC	391
Membranes, the fluid mosaic model of		Plants, chemical warfare amongst	499
biological MA	679	Pollution, river Part I MA	243
Methanal, a safe alternative to C	727	Pollution, river Part II MA	460
Microcomputer, chi-squared tests on a B	290	Polybasic acids and their salts C	710
Microcomputer, measurement of		Presidential address: Science, industry	
capacitor charge decay using a P	333	and education MA	639
Microcomputer simulation of enzyme		Pressure measurement, a probe for P	732
kinetic behaviour MA	670	Primary schools, projects in electricity	
Microcomputers and biology teaching		for MA	270
MA	255	Prism, the deviation caused by a P	106
Microprocessor-based laboratory		Problem-solving activities MA	19
instrument: VELA MA	38		
Microwave apparatus P	342		
Milk bottle 'magic' NC	591	Readability, program for science	
Model arm MS	126	worksheets SE	560
Mole, how should it be taught MA	486	Redox series, a more useful C	82
Mosquito larvae, identification of B	74	Reduction of nitroarenes C	102
Mushroom growing as a school project B	498	Religion and science SE	754
ground and an annual project 2	170	Research into science and technological	
Nematodes, culturing soil B	298	education NC	385
Newton's Second Law MS	553	Resistivity of metals P	551
Nitroarenes, the metal/acid reduction of	333	River pollution Part I MA	243
	102	River pollution Part II MA	460
C		Kiver pondition Tare II Mas	100
Noble gases in A-level chemistry MA	277		
Noble-metal alkynides C	332	Safety, laboratory NC	594
North Sea oil MA	48	Safety V—the hazards of some chemicals	371
Nuclear weapons and science education		used in biology teaching B	299
MA	440		279
Nuffield balance, the MS	124	Salicornia, regulation of osmotic	77
Nutrition, teaching B	692	potential by B	73
Nutrition, the James report on NC	595	Science and religion SE	754
		Science and truth, NC	156
Obituaries:		Science as it was NC	766
E. W. Tapper (1905-83) NC	579	Science education, the future of MA	429
Harold Tunley (1898-83) NC	383	Science for all—a rationale NC	582
Observations, the nature of scientific NC	768	Science for all—the adult dimension SE	364
Oil, North Sea MA	48	Science in Society—Reader P NC	158
Organ, the marketing of a programmable		Science, industry and education,	
electronic MA	56	Presidential address MA	639
Osmotic potential, regulation by	-	Science, what do pupils prefer SE	133
Salicornia B	73	Scientific observation, what is a SE	142
Oxides, neutral NC	595		768
	90	Search coils P	346
Oxygen, the percentage in air C	90	Selection pressures, measuring	3.0
DUC -leticienties of C	719	adaptation and B	508
PVC, platicization of C			138
Pencil, the chemical history of a MS	746	Slow learner, teaching science to the SE	130
Pharmaceutical industry, a career in the	-04	Snap—a game for teaching ionic	102
NC	584	formulae C	103 329
Philosophy of science, chemistry and		Solvation of ionic solids in water C	
the Part II SE	136	Sound in carbon dioxide, speed of P	104
Photosynthesis, showing that carbon		Sound, speed of P	107
dioxide is needed for B	499	Soviet Union, science education and	
Physics grades, the comparability of		sexism in the MA	213
A-level SE	569	Spectral colours NC	388
Phytoplankton sampler, the construction		Stalactites simulated in salt C	99
of a B	502	Stomata, a method for making slides of B	297
Pinhole camera, another P	108	Strontianite, experimental aspects of C	316

		_	
Sublimation C	307	Units, the manipulation of MA	233
Sublimation NC	163	Uptrust and all that! P	734
Sublimation and distillation NC	775		
Suffocating candle NC	162	$V = \Omega_0$, problems with the teaching of P	341
Sulphuric acid, the production of NC	393	VELA: a microprocessor-based	341
Sun's diameter, a solar camera for			20
measuring the MS	746	laboratory instrument MA	38
Superluminal velocities P	114	Valency, the origin of the term NC	594
Surface tension pulls a boat MS	355	Velocities, superluminal P	114
	000	Vibration generator, a simple P	549
Tapper, E. W. (1905-83) NC	579		
Television science programme, BBC		Walk, how does a person manage to P	117
School NC	154	Water quality, biological methods for	
Terms, helping students to learn the		assessing MA	460
meaning of NC	394	Watering technique for locust egg-laying	
Thermite reaction NC	393	tubes B	298
Thermostats, bimetallic strips and their	373	Weight as a force, the concept of MS	748
use as P	545	West Germany, Ideas on the teaching of	
Tide, that antipodal high B	80	chemistry from C	97
Tide, that antipodal high NC	597	Workcards on heat MS	359
	286	Work experience, a study in SE	574
Toxicology: old art, new science MA		World studies perspective, teaching	
Toxicology: old art, new science NC	591	chemistry with a SE	380
Transition metal ammine complexes C	531	chemistry with a bas	500
Transition metal compounds, magnetic			
properties of C	714	ZX81 computer, a simulation of the	
Tunley, Harold (1898–1983) NC	383	electrolysis of water using the C	93

